

# ZMI 7724 Laser Module

P/N's	DESCRIPTION
8070-0277-10	Laser module connects to up to 2 delivery modules

PHYSICAL CHARACTERISTICS	
Dimensions	See Figure
Weight	5.5 kg
Materials	Casting- Aluminum Cooling Tubes- 304L Stainless Steel Cooling Connectors- 316 Stainless Steel
Cooling Connectors	(2) G 1/8 ISO 228/1
Nominal Cable Clearance	120 mm

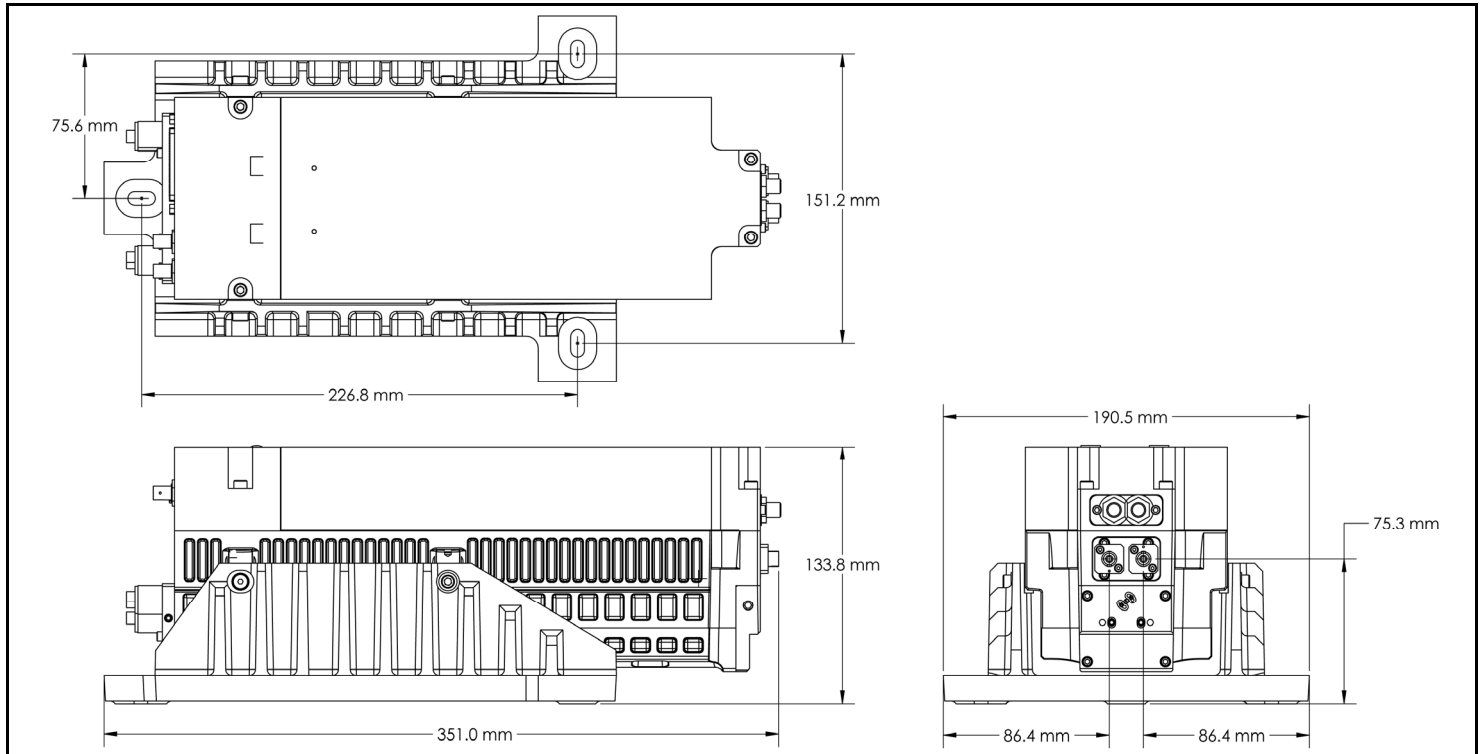
ELECTRICAL	
Power Requirements (max)	+15 VDC $\pm 0.5$ V @ 2.1 A -15 VDC $\pm 0.5$ V @ 1.4 A -15 VDC inrush max 5 A for 20 msec
Heat Dissipation	<8 W with user-supplied chiller

LASER CHARACTERISTICS	
Type	Helium-Neon, CW
Output Power	$\geq 1.42$ mW per channel
Time from turn-on to laser light	2 minutes max.
Time to wavelength stability	10 minutes typical @ $21.5 \pm 1.5^\circ\text{C}$
Nominal Vacuum Wavelength	632.99070 nm Left channel: mean $-0.00044$ nm Right channel: mean $+0.00044$ nm

LASER CHARACTERISTICS CONTINUED	
Vacuum Wavelength Lifetime Accuracy	$\pm 0.1$ ppm
Vacuum Wavelength Stability	0.5 ppb ( $3\sigma$ ) over 1 hour 10 ppb ( $3\sigma$ ) over laser lifetime,
DHHS Laser Safety Classification	Class II, conforms to NCDRH regulations

ENVIRONMENTAL	
Operating Temperature	20 to $25^\circ\text{C}$
Max. Temperature Variation	$\pm 1^\circ\text{C}$
Maximum Rate of Ambient Temperature Change	$2^\circ\text{C}$ per hour
Temperature Range (non-operational)	$-20$ to $60^\circ\text{C}$
Humidity	30 to 70%, non-condensing
Humidity (non-operational)	0 to 70%, non-condensing
Shock (non-operational)	11 msec 40g shock on each of three orthogonal axes

COOLING	
Active cooling with a user-supplied chiller is required to meet the specifications on this page.	
Coolant Type	Compatible with ethylene propylene seals
Coolant Temperature Setpoint	20 to $23^\circ\text{C} \pm 0.1^\circ\text{C}$
Coolant Flow Rate	$>0.5$ and $<4$ liters per minute
Maximum Allowable Coolant Pressure	690 kPa (100 psi)



LASER RADIATION  
DO NOT STARE INTO BEAM  
CLASS 2 LASER PRODUCT  
<1mW PER FIBER, 633 nm  
IEC 60825-1:2014